

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BLACK POND	Lake Area (ha): 2.43
Town: LINCOLN	Maximum depth (m): 13.5
County: Grafton	Mean depth (m): 5.1
River Basin: Merrimack	Volume (m ³): 123000
Latitude: 44°06'27" N	Relative depth: 7.6
Longitude: 71°35'00" W	Shore configuration: 1.23
Elevation (ft): 1650	Areal water load (m/yr): 8.35
Shore length (m): 680	Flushing rate (yr ⁻¹): 1.60
Watershed area (ha): 26.7	P retention coeff.: 0.57
% watershed ponded: 0.0	Lake type: natural

BIOLOGICAL:

17 January 1996

23 August 1995

DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 65%	MALLOMONAS 95%
	#2		
	#3	(ALL ALGAE SPARSE)	
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			3.65
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 41%	KERATELLA 80%
	#2	DAPHNIA 23%	DAPHNIA 7%
	#3	CALANOID COPEPOD 23%	
ROTIFERS/LITER		9	541
MICROCRUSTACEA/LITER		11	88
ZOOPLANKTON ABUNDANCE (#/L)		22	656
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			3.5
BOTTOM DISSOLVED OXYGEN (mg/L)		2.5	0.8
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		< 1
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	4.0
Hypolimnion volume (m ³):	31000
Anoxic volume (m ³):	36000

CHEMICAL:

Lake: BLACK POND

Town: LINCOLN

	17 January 1996		23 August 1995		
DEPTH (m)	2.5	7.5	1.0	4.5	9.5
pH (units)	6.1	6.1	6.7	6.3	6.5
A.N.C. (Alkalinity)	4.8	6.3	5.7	8.8	19.7
NITRATE NITROGEN	0.06	0.08	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.30	0.34	0.35	0.32	1.04
TOTAL PHOSPHORUS	0.006	0.006	0.009	0.009	0.029
CONDUCTIVITY (μ mhos/cm)	28.1	29.3	24.9	32.0	52.4
APPARENT COLOR (cpu)	49	49	47	46	135
MAGNESIUM			0.46		
CALCIUM			5.1		
SODIUM			1.7		
POTASSIUM			0.56		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	3	3	3		2
TN : TP	60	70	39		36
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1995

D.O. S.D. PLANT CHL TOTAL CLASS

6	2	1	0	9	Meso.
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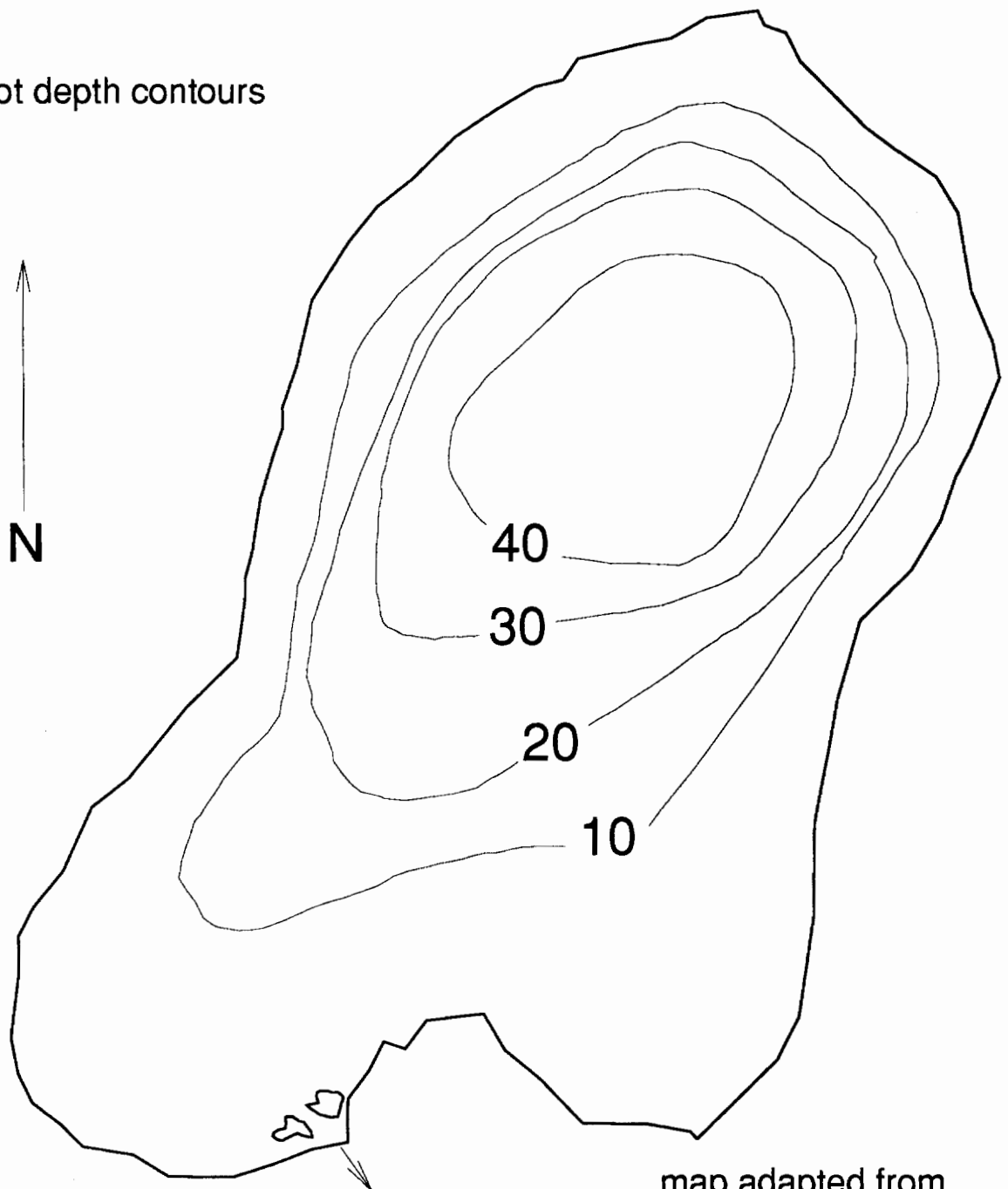
COMMENTS:

1. This is a small but relatively deep remote, high elevation trout pond located in the White Mountain National Forest. It was surveyed cooperatively with the Fish and Game Department.
2. The pond has been sampled annually in the spring since 1982 as part of F&G's helicopter stocking program. The pH and ANC have shown a stable trend during this time.
3. The anoxic bottom waters resulted in the release of nutrients, color and ANC from the deep sediments.

Black Pond

Lincoln

10 foot depth contours



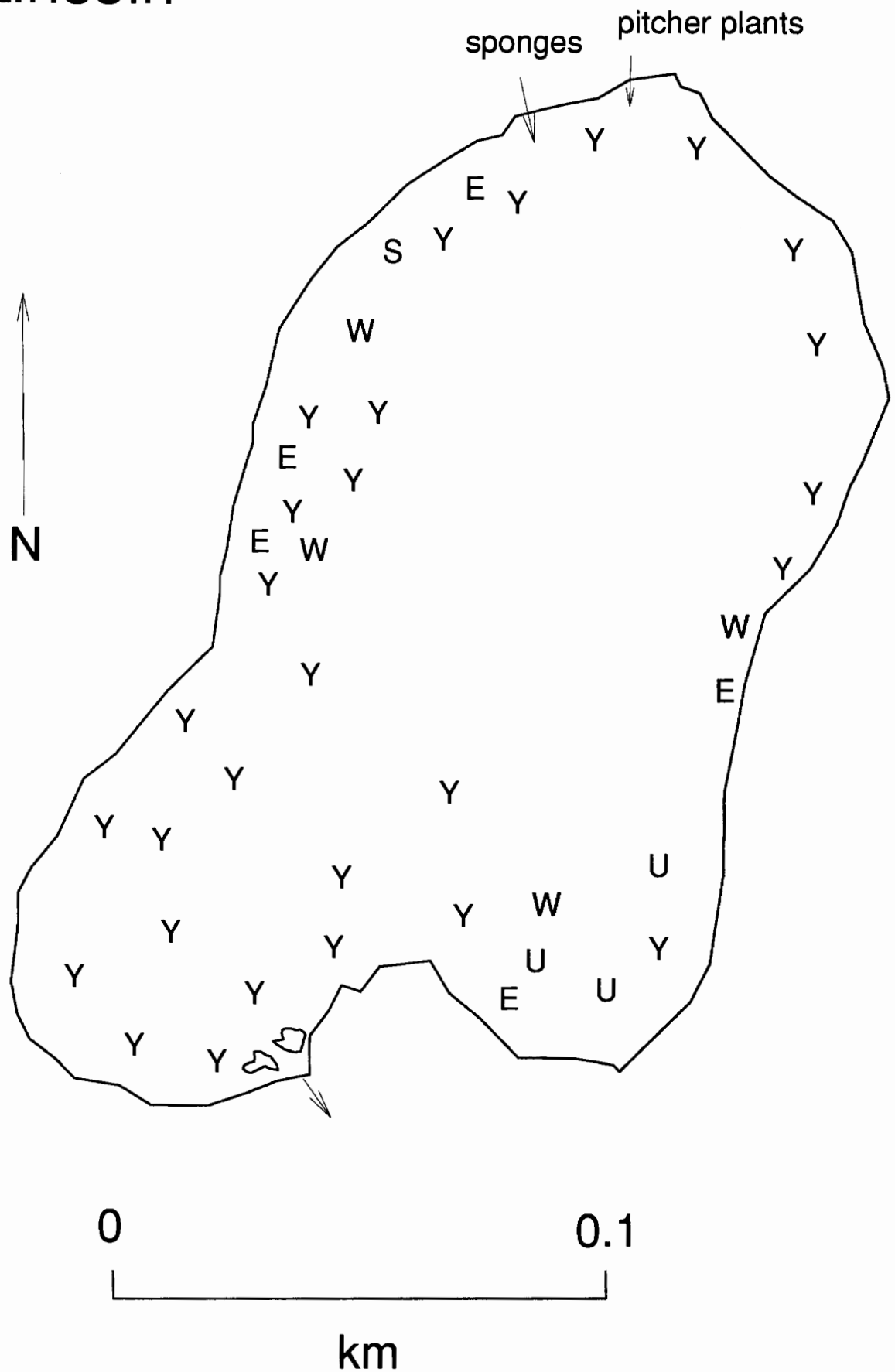
map adapted from
Buso, et al., 1984

0 0.1
km

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Black Pond

Lincoln



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